

Appendix 10.3: Explanatory note on feeder reclassification

Regulatory proposal for the ACT electricity distribution network 2019-24
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1. Introduction

The Service Target Performance Incentive Scheme (STPIS) is structured such that urban and short rural feeders have different SAIDI and SAIFI performance targets. Additionally, the rewards and penalties for over or underperformance are also different for urban and rural feeders.

Evoenergy proposes to apply the most current feeder classification in order to set the performance targets for urban and short rural feeders for the forthcoming regulatory control period. It is important to note that the raw historical network-wide reliability data, which is annually reported to the AER, would be the same across both feeder classifications, as our overall number of outages and durations, and customer base are still the same.

2. Current feeder classification

As per the current definition in Appendix A of Distribution STPIS¹, urban feeders are defined as feeders having a maximum demand of 0.3 MVA/km or higher. Feeders, which are not CBD or urban feeders, with a maximum demand lower than 0.3 MVA/km and a total feeder route length less than 200 km, are classified as short rural feeders. At the beginning of the 2014-19 regulatory control period, for the purpose of applying STPIS to Evoenergy, 19 feeders were identified as short rural feeders.

The nature of Evoenergy's network design means that there are many feeders with a maximum load near the threshold of 0.3 MVA/km. Over the years, as a result of the network's constant effort to balance feeder loads and shift loads from overloaded to lightly loaded feeders, many of its urban feeders now have a maximum load that is lower than the 0.3 MVA/km threshold.

For the purpose of reporting SAIDI and SAIFI RIN data as part of the annual RIN response, Evoenergy has maintained the same feeder classification during 2014-19 because:

- The scheme is silent on when or how often the classification needs to be reviewed
- If the feeder classification were to change on an annual basis, the STPIS reliability targets, which are set for the duration of the regulatory control period, would be irrelevant.

Table 10.3.1 and Table 10.3.2 shows the breakdown of reliability data based on the current feeder classification that include 19 short rural feeders.

¹ AER, 2009, Electricity distribution network service providers – Service target performance incentive scheme, November 2009, pp. 22

Table 10.3.1 Unplanned SAIDI by feeder, based on current feeder classification

Sum of SAIDI Feeder	2013	2014	2015	2016	2017	5-year Average
Urban	27.2	24.9	33.8	35.7	39.1	32.1
Short Rural	34.2	55.7	30.7	30.3	42.7	38.72
Network-wide	27.9	28.2	32.8	35.1	39.5	32.7

Table 10.3.2 Unplanned SAIFI by feeder, based on current feeder classification

Feeder Type	2013	2014	2015	2016	2017	5- year average
Urban	0.553	0.471	0.642	0.683	0.669	0.604
Short Rural	0.870	0.806	0.529	0.616	0.852	0.734
Network-wide	0.588	0.508	0.605	0.676	0.690	0.613

3. Proposed feeder reclassification

The review of Table 3.6.8: Network Feeder Reliability in the Annual reporting RIN for 2016-17, revealed that the number of short rural feeders, has increased from 19 to 63 based on the 0.3 MVA/km rule.

Evoenergy's view is that these feeders should be reclassified to better reflect the actual network condition. Therefore, Evoenergy has recalculated the reliability data by feeder type for the past five regulatory years in order to reflect the latest feeder classification. This data would be used to calculate the reliability performance targets that underpin the STPIS for 2019-24 regulatory control period. Table 10.3.3 and Table 10.3.4 shows the reclassification of Evoenergy's historical unplanned reliability data by feeder type using the proposed feeder classification.

Table 10.3.3 Unplanned SAIDI by feeder, based on proposed feeder classification

Feeder Type	2013	2014	2015	2016	2017	5-year average
Urban	27.3	25.1	37.2	35.8	40.3	33.1
Short Rural	29.2	35.2	23.3	33.7	37.8	31.8
Network-wide	27.9	28.2	32.8	35.1	39.5	32.7

Table 10.3.4 Unplanned SAIFI by feeder, based on proposed feeder classification

Feeder Type	2013	2014	2015	2016	2017	5-year average
Urban	0.531	0.465	0.679	0.742	0.673	0.618
Short Rural	0.713	0.602	0.442	0.531	0.726	0.603
Network-wide	0.588	0.508	0.605	0.676	0.690	0.613

4. Comparison of reliability targets under the current and proposed feeder classification

Table 10.3.5 shows the 5-year average of SAIDI and SAIFI under the two feeder classifications. Under the proposed feeder classification, the reliability targets for urban feeders are generally higher whereas the reliability targets for short rural feeders are generally lower. This reflects the historical operational conditions in the Evoenergy's distribution network. Evoenergy considers that the reclassification of the reliability data by feeder type is neutral from the point of view of potential rewards and penalties associated with STPIS.

Table 10.3.5 Difference in 5-year average due to feeder classification

		Current	Proposed
SAIDI (mins)	Urban	32.1	33.1
SAIDI (mins)	Short Rural	38.7	31.8
		Current	Proposed
SAIFI	Urban	0.604	0.618
SAIFI	Short Rural	0.734	0.603